

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

BECTON, DICKINSON AND)	
COMPANY,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 21-833 (CFC) (JLH)
)	
BECKMAN COULTER, INC.,)	DEMAND FOR JURY TRIAL
)	
Defendant.)	

SECOND AMENDED COMPLAINT

Plaintiff Becton, Dickinson and Company (“Plaintiff” or “BD”), for its Complaint against Defendant Beckman Coulter, Inc. (“Defendant” or “Beckman”), hereby alleges as follows.

INTRODUCTION

1. BD has a long history of innovation in the field of flow cytometry. In 1974, BD launched the world’s first commercial fluorescent activated cell sorter. Since then, BD continually invested substantial resources on research and development in the field, thereby allowing BD to remain a market leader nearly fifty years later. BD has obtained numerous patents arising out of its research and development efforts and this is an action for patent infringement relating to four of BD’s patents that are infringed by Beckman’s CytoFLEX analyzers and sorters.

PARTIES

2. BD is a corporation organized and existing under the laws of New Jersey having a principal place of business at 1 Becton Drive, Franklin Lakes, New Jersey 07417.

3. Upon information and belief, Beckman is a corporation organized and existing under the laws of Delaware, having a principal place of business at 250 South Kraemer Boulevard, Brea, California.

NATURE OF THE ACTION

4. This is an action for infringement of U.S. Patent No. 6,683,314 (“the ’314 patent”), U.S. Patent No. 7,129,505 (“the ’505 patent”), U.S. Patent No. 7,201,875 (“the ’875 patent”) and U.S. Patent No. 7,787,197 (“the ’197 patent”) (collectively, “the patents-in-suit”) under the patent laws of the United States, 35 U.S.C. § 1 *et seq.* arising from Beckman’s manufacture, use, sale, offer for sale, and/or importation of flow cytometry analyzer and cell sorter devices, specifically its CytoFLEX product line, prior to the expiry of the patents-in-suit.

JURISDICTION AND VENUE

5. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including 35 U.S.C. § 271, which gives rise to the remedies specified under 35 U.S.C. §§ 281 and 283-285.

6. This Court has exclusive jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Beckman by virtue of, *inter alia*, the fact that Beckman is incorporated in the State of Delaware.

8. Venue is proper in this Judicial District under 28 U.S.C. § 1400(b) because, *inter alia*, Beckman is incorporated in the State of Delaware and therefore resides within this District.

THE PATENTS-IN-SUIT

9. On January 27, 2004, the '314 patent, titled "Fluorescence detection instrument with reflective transfer legs for color decimation," was duly and lawfully issued by the United States Patent and Trademark Office ("USPTO"). BD is the owner of the '314 patent and has the right to sue for infringement thereof. A true and accurate copy of the '314 patent is attached hereto as Exhibit 1.

10. On October 31, 2006, the '505 patent, titled "Fluorescence detection instrument with reflective transfer legs for color decimation," was duly and lawfully issued by the USPTO. BD is the owner of the '505 patent and has the right to sue for infringement thereof. A true and accurate copy of the '505 patent is attached hereto as Exhibit 2.

11. On April 10, 2007, the '875 patent, titled "Fixed mounted sorting cuvette with user replaceable nozzle," was duly and lawfully issued by the

USPTO. BD is the owner of the '875 patent and has the right to sue for infringement thereof. A true and accurate copy of the '875 patent is attached hereto as Exhibit 3.

12. On August 31, 2010, the '197 patent, titled "Beam-adjusting optics," was duly and lawfully issued by the USPTO. BD is the owner of the '197 patent and has the right to sue for infringement thereof. A true and accurate copy of the '197 patent is attached hereto as Exhibit 4.

BECKMAN'S INFRINGING PRODUCTS

13. Beckman makes, uses, sells, offers for sale, and/or imports the CytoFLEX Flow Cytometer, CytoFLEX S Flow Cytometer, and CytoFLEX LX Flow Cytometer analyzer products ("the Accused Analyzer Products"), including the CytoFLEX V0-B2-R2 Flow Cytometer, CytoFLEX V0-B3-R1 Flow Cytometer, CytoFLEX V0-B3-R2 Flow Cytometer, CytoFLEX V0-B3-R3 Flow Cytometer, CytoFLEX V0-B4-R0 Flow Cytometer, CytoFLEX V0-B4-R2 Flow Cytometer, CytoFLEX V0-B5-R0 Flow Cytometer, CytoFLEX V0-B5-R3 Flow Cytometer, CytoFLEX V2-B2-R0 Flow Cytometer, CytoFLEX V2-B2-R2 Flow Cytometer, CytoFLEX V2-B3-R2 Flow Cytometer, CytoFLEX V2-B3-R3 Flow Cytometer, CytoFLEX V2-B4-R0 Flow Cytometer, CytoFLEX V2-B4-R2 Flow Cytometer, CytoFLEX V2-B4-R3 Flow Cytometer, CytoFLEX V2-B5-R3 Flow Cytometer, CytoFLEX V3-B3-R0 Flow Cytometer, CytoFLEX V3-B3-R3 Flow

Cytometer, CytoFLEX V3-B4-R3 Flow Cytometer, CytoFLEX V4-B4-R3 Flow
 Cytometer, CytoFLEX V4-B5-R3 Flow Cytometer, CytoFLEX V5-B3-R3 Flow
 Cytometer, CytoFLEX V5-B4-R3 Flow Cytometer, CytoFLEX V5-B5-R0 Flow
 Cytometer, CytoFLEX V5-B5-R3 Flow Cytometer, CytoFLEX S N0-V0-B2-Y2
 Flow Cytometer, CytoFLEX S N0-V0-B2-Y4 Flow Cytometer, CytoFLEX S
 N0-V4-B2-Y4 Flow Cytometer, CytoFLEX S N2-V0-B2-Y4 Flow Cytometer,
 CytoFLEX S N2-V0-B4-R0 Flow Cytometer, CytoFLEX S N2-V0-B5-R3 Flow
 Cytometer, CytoFLEX S N2-V3-B5-R3 Flow Cytometer, CytoFLEX S
 N2-V4-B2-Y4 Flow Cytometer, CytoFLEX S V0-B2-Y4-R0 Flow Cytometer,
 CytoFLEX S V0-B2-Y4-R3 Flow Cytometer, CytoFLEX S V0-B4-R0-I2 Flow
 Cytometer, CytoFLEX S V0-B4-R3-I2 Flow Cytometer, CytoFLEX S
 V2-B2-Y2-R0 Flow Cytometer, CytoFLEX S V2-B2-Y3-R2 Flow Cytometer,
 CytoFLEX S V4-B2-Y0-R3 Flow Cytometer, CytoFLEX S V4-B2-Y4-R0 Flow
 Cytometer, CytoFLEX S V4-B2-Y4-R3 Flow Cytometer, CytoFLEX S
 V4-B4-R0-I2 Flow Cytometer, CytoFLEX S V4-B4-R3-I2 Flow Cytometer,
 CytoFLEX LX N0-V5-B3-Y5-R3-I0 Flow Cytometer, CytoFLEX LX
 N3-V5-B3-Y5-R3-I0 Flow Cytometer, CytoFLEX LX N3-V5-B3-Y5-R3-I2 Flow
 Cytometer, CytoFLEX LX U3-V5-B3-Y0-R3-I0 Flow Cytometer, CytoFLEX LX
 U3-V5-B3-Y5-R0-I0 Flow Cytometer, CytoFLEX LX U3-V5-B3-Y5-R3-I0 Flow
 Cytometer, and CytoFLEX LX U3-V5-B3-Y5-R3-I2 Flow Cytometer. Exhibits 5-

7 are true and correct copies of Beckman's product website for the Accused Analyzer Products, available at <https://www.beckman.com/flow-cytometry/instruments/cytoflex>, <https://www.beckman.com/flow-cytometry/instruments/cytoflex-s>, and <https://www.beckman.com/flow-cytometry/instruments/cytoflex-lx>, respectively.

14. Beckman makes, uses, sells, offers for sale, and/or imports the CytoFLEX SRT Benchtop Cell Sorter products ("the Accused Cell Sorter Products"), including the CytoFLEX SRT V5-B2-Y5-R3 Cell Sorter, CytoFLEX SRT V5-B2-Y5-R0 Cell Sorter, CytoFLEX SRT V5-B2-Y0-R3 Cell Sorter, CytoFLEX SRT V0-B2-Y5-R3 Cell Sorter, CytoFLEX V5-B2-Y0-R0 Cell Sorter, CytoFLEX SRT V0-B2-Y5-R0 Cell Sorter, and CytoFLEX SRT V0-B2-Y0-R3 Cell Sorter. Exhibit 8 is a true and correct copy of Beckman's product website for the Accused Cell Sorter Products, available at <https://www.beckman.com/flow-cytometry/instruments/cytoflex-srt>.

15. Beckman makes, uses, sells, offers for sale, and/or imports consumables for use with its Accused Analyzer Products and Accused Cell Sorter Products ("the Associated Products"), including multiple CytoFLEX Startup Reagents kits, the CytoFLEX SRT Startup Reagent Bundle Kit, and á la carte reagents, parts, and maintenance kits. Exhibit 9 and Exhibit 10 are true and correct copies of Beckman's product websites for the Associated Products, available at

<https://www.beckman.com/flow-cytometry/instruments/cytoflex/consumables> and <https://www.beckman.com/flow-cytometry/instruments/cytoflex-srt/consumables>, respectively. Beckman also uses, sells, and/or offers for sale services for use with its Accused Analyzer Products (“the Associated Services”).

16. Beckman markets, advertises, and promotes the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services to its customers, including through information in publicly-available product literature and websites. Exhibit 11 is a true and correct copy of product literature relating to Beckman’s CytoFLEX Flow Cytometer platform, available at <https://www.beckman.com/gated-media?mediaId=%7B287ADE78-2554-4027-879F-9C504FAEC125%7D>. Exhibit 12 is a true and correct copy of technical specifications relating to the CytoFLEX Violet-Blue-Red Series Accused Analyzer Products available at <https://www.beckman.com/gated-media?mediaId=%7B1BFA6694-7B70-4273-ABD3-E4433EFF8CF2%7D>.

Exhibit 13 is a true and correct copy of technical specifications relating to the CytoFLEX S Near UV-Violet-Blue-Yellow Green Series Accused Analyzer Products available at <https://www.beckman.com/gated-media?mediaId=%7B0EE474C9-0497-4D4C-81A9-13DFB634C176%7D>. Exhibit 14 is a true and correct copy of technical specifications relating to the CytoFLEX S Near UV-Violet-Blue-Red Series Accused Analyzer Products available at

[https://www.beckman.com/gated-media?mediaId=%7B08ADD218-4B39-4103-](https://www.beckman.com/gated-media?mediaId=%7B08ADD218-4B39-4103-8457-96B31CE93747%7D)

[8457-96B31CE93747%7D](https://www.beckman.com/gated-media?mediaId=%7B08ADD218-4B39-4103-8457-96B31CE93747%7D). Exhibit 15 is a true and correct copy of technical specifications relating to the CytoFLEX S Violet-Blue-Yellow Green-Red Series Accused Analyzer Products available at <https://www.beckman.com/gated-media?mediaId=%7B896A72F0-5DAD-42AA-89F2-AD79487E95CD%7D>.

Exhibit 16 is a true and correct copy of technical specifications relating to the CytoFLEX S Violet-Blue-Red-Infrared Series Accused Analyzer Products available at <https://www.beckman.com/gated-media?mediaId=%7B54684C10-67F9-450C-B2A5-AC915D8FEA55%7D>. Exhibit 17 is a true and correct copy of

technical specifications relating to the CytoFLEX LX UV-Violet-Blue-Yellow Green-Red-Infrared Series Accused Analyzer Products available at <https://www.beckman.com/gated-media?mediaId=%7B6A5CEBCF-2745-4CD3-8975-A506C5BB560E%7D>. Exhibit 18 is a true and correct copy of technical

specifications relating to the CytoFLEX LX Near UV-Violet-Blue-Yellow Green-Red-Infrared Series Accused Analyzer Products available at <https://www.beckman.com/gated-media?mediaId=%7B48BAF407-ECBA-4E7F-80B4-75BCD87FAA49%7D>. Exhibit 19 is a true and correct copy of product

literature relating to Beckman's CytoFLEX technology available at <https://www.beckman.com/flow-cytometry/instruments/cytoflex/technology>.

Exhibit 20 is a true and correct copy of Beckman's Instructions for Use of the

Accused Analyzer Products available at <https://www.beckman.com/techdocs/B49006AP/wsr-168786>.

17. Exhibit 21 is a true and correct copy of product literature relating to the Accused Cell Sorter Products available at <https://www.beckman.com/gated-media?mediaId={0939D45A-0410-42DE-93D7-BCF70D98EBD0}>. Exhibit 22 is a true and correct copy of technical specifications relating to the Accused Cell Sorter Products available at <https://www.beckman.com/gated-media?mediaId={0FECFDD1-C349-46EE-AC92-BCCE27A5D5A7}>. Exhibit 23 is a true and correct copy of promotional material relating to the Accused Cell Sorter Products available at <https://www.beckman.com/landing/flow/srt>. Exhibit 24 is a true and correct copy of a news release relating to the Accused Cell Sorter Products available at <https://www.beckman.com/news/beckman-coulter-life-sciences-launches-next-generation-cytoflex-srt-benchtop-cell-sorter>. Exhibit 25 is a true and correct copy of Beckman's Instructions for Use of the Accused Cell Sorter Products, available at <https://www.beckman.com/techdocs/C37808AA/wsr-335892>.

18. Beckman also markets, advertises, and promotes the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services to its customers through online videos. Certain of these videos describing features of the Accused Analyzer Products, Accused Cell Sorter

Products, Associated Products, and Associated Services are available at <https://www.beckman.com/landing/flow/srt-video>, <https://www.beckman.com/resources/videos/products/cytoflex-lasers-and-integrated-optics>, and <https://www.beckman.com/resources/videos/products/cytoflex-inside-the-wdm>.

19. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include optical analyzers to detect and analyze fluorescent signals from samples. On information and belief, the optical configuration of the Accused Cell Sorter Products is the same as the optical configuration of the Accused Analyzer Products, specifically the CytoFLEX S Violet-Blue-Yellow Green-Red Series Accused Analyzer Products. *See* Exhibit 21 at 2 (“This extension of the CytoFLEX platform is built on the same optical features as the flow cytometer.”); Exhibit 23. On information and belief, these optical analyzers include lasers of different wavelengths that emit a beam that is separated into a reflected and transmitted beam at a series of dichroic mirrors. *See* Exhibit 11 at 3; Exhibits 12-18; Exhibit 21 at 3; Exhibit 22 at 1. On information and belief, the optical analyzers of the Accused Analyzer Products and Accused Cell Sorter Products also include beam-adjusting optics positioned between the lasers and a focusing lens to position the focus of the analysis and detection. *See*

Exhibit 25 at 1-1 and 1-17 and Figure 1.15; Exhibit 20 at 3-3 and Figure 3.2; Exhibit 11 at 3; Exhibit 21 at 3; Exhibits 12-18; Exhibit 22.

20. On information and belief, the Accused Cell Sorter Products include flow cells that transmit liquid from a sample delivery tube and from sheath flow ports to a cuvette. *See* Exhibit 25 at 1-5 (“The fluidics system helps to transmit the sheath fluid at a stable rate into the flow cell, forming a laminar flow to ensure that the tested particles go through the detection area sequentially.”); *id.* at 1-1, 1-3, 1-5, 1-17, 1-21, and 1-23 and Figures 1.1, 1.3, 1.11, and 1.14. On information and belief, this liquid is transported through a channel in the cuvette to a removable nozzle that interfaces with the cuvette. *See* Exhibit 25 at 1-27 (“The nozzle module (hereinafter referred to as Nozzle) contains a detachable 100-μm nozzle (1), O-ring (2) and a nozzle holder (3). The stream of sheath and sample is pressurized to go through the nozzle.”); *id.* at 1-1, 1-2, 1-5, 3-9, 10-41 and Figures 1.1, 1.3, and 1.25.

21. On information and belief, Beckman has been selling and offering for sale its Accused Analyzer Products, Associated Products, and Associated Services in the United States at least since May, 2015.

22. On information and belief, Beckman commercially launched its Accused Cell Sorter Products on March 4, 2021, and at least since March 4, 2021

has been selling and offering for sale its Accused Cell Sorter Products, Associated Products, and Associated Services in the United States.

FIRST CAUSE OF ACTION
(INFRINGEMENT OF THE '314 PATENT)

23. BD realleges and incorporates paragraphs 1–22 as though fully set forth herein.

24. Beckman directly or through the actions of its employees, agents, distributors, divisions, and/or subsidiaries, has infringed and continues to infringe, one or more of the claims of the '314 patent, including at least claim 1, directly and indirectly, literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale within the United States, and/or importing into the United States, the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services that practice one or more claims of the '314 patent.

25. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include an optical instrument for fluorescence analysis of many colors from a target having fluorescent material. On information and belief, the optical configuration of the Accused Cell Sorter Products is the same as the optical configuration of the Accused Analyzer Products, specifically the CytoFLEX S Violet-Blue-Yellow Green-Red Series Accused Analyzer Products. *See* Exhibit 21 at 2 (“This extension of the CytoFLEX platform is built

on the same optical features as the flow cytometer.”); Exhibit 23. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include an optical instrument that performs fluorescence analysis of many colors from a target having fluorescent material. *See* Exhibit 11 at 3; *see also* Exhibit 20 at 3-4 (“As cells in the sample stream go through the sensing area of the flow cell, the elliptical beam illuminates them. The cells scatter the laser light and emit fluorescent light from autofluorescence and the fluorescent dyes attached to them.”); Exhibit 25 at 1-1 (“The CytoFLEX SRT Sorter examines individual particles that are propelled in saline sheath through a flow cell (1), then through one to four spatially laser beams (2) of differing wavelengths. If the properties of the particle, or fluorescent dye added to the particle, are excited by the wavelength of laser light, the particle emits broadband fluorescence and scattered light. The emitted light is collected, focused, reflected, and filtered, so that discrete wavelengths of light are detectable by the fiber array photo detectors (FAPD).”); Exhibits 12-18; Exhibit 22.

26. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a plurality of lasers of different wavelengths that generate a plurality of beams, which beams impinge upon fluorescent material. For example, the Accused Analyzer Products include from two to six lasers of different wavelengths, each of which generates a beam that impinges on

fluorescent matter. *See* Exhibits 12-18; *see also* Exhibit 20 at Tables 1.1 to 1.7; Exhibit 11 at 3. For further example, the Accused Cell Sorter Products include four lasers of different wavelengths, each of which generates a beam that impinges on fluorescent matter. *See* Exhibit 22 at 1 (“The fully activated instrument includes five fluorescent channels from the 405 nm (Violet) laser, two from the 488 nm (Blue) laser, five from the 561 nm (Yellow) laser, and three from the 638 nm (Red) laser.”); *see also* Exhibit 21 at 3; Exhibit 25 at 1-1 and 1-17; Exhibit 11 at 3.

27. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a light collector to collect fluorescent light from said fluorescent material into an output transfer beam. For example, the Accused Analyzer Products, on which the Accused Cell Sorter Products are based and parameter matched, includes a fiber ferule that collects light emitted from the flow cell and forms an output beam for analysis. *See* Exhibit 11 at 3; *see also* Exhibit 20 at 3-5 (“Each WDM contains optical filters and detectors for detecting channel fluorescence or scatter from a particular laser.”); *id.* at Figure 3.3; Exhibit 25 at 1-1 (“The emitted light is collected, focused, reflected, and filtered, so that discrete wavelengths of light are detectable by the fiber array photo detectors (FAPD).”); *id.* at 1-18.

28. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a plurality of dichroic mirrors arranged to receive the transfer beam from the light collector. For example, the Accused Analyzer Products, on which the Accused Cell Sorter Products are based and parameter matched, include a Wavelength Division Multiplexer (“WDM”) module. *See* Exhibit 19; Exhibit 20 at 3-5 (“Each WDM contains optical filters and detectors for detecting channel fluorescence or scatter from a particular laser.”); Exhibit 21 at 3 (“All instruments use the same WDM design meaning that filters are interchangeable across the platform.”); Exhibit 11 at 3. The Accused Cell Sorter Products also include a WDM module that includes a plurality of optical filters that function as dichroic mirrors to receive the transfer beam from the light collector via an optical fiber. *See* Exhibit 25 at 1-18 (“Each WDM contains optical filters and detectors for detecting channel fluorescence or scatter from a particular laser.”).

29. On information and belief, the dichroic mirrors of the Accused Analyzer Products and Accused Cell Sorter Products have a partially reflective surface splitting the light into a transfer leg and a transmitted detector leg. For example, optical filters in the WDM module separate light into a reflected beam and a transmitted beam. *See* Exhibit 20 at 3-5; Exhibit 25 at 1-18; Exhibit 11 at 3 (“The WDM relies on fiber optics and band pass filters to separate the light

wavelengths.”); Exhibit 19 (“The WDM relies on fiber optics and band pass filters to separate the light wavelengths.”). For further example, Beckman provides the following illustration of the light path within the WDM:

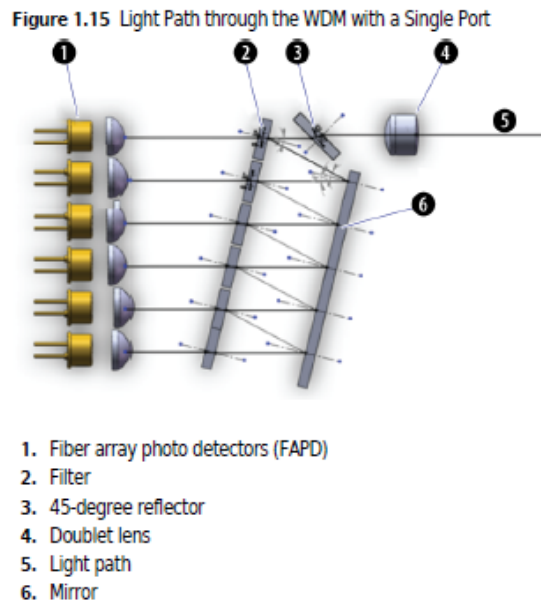


Exhibit 25 at 1-19; *see also* Exhibit 20 at 3-6.

30. On information and belief, a majority of the dichroic mirrors of the Accused Analyzer Products and Accused Cell Sorter Products receive light from the partially reflective surface of another dichroic mirror. For example, as illustrated above in Paragraph 29, in the WDM module, each optical filter (other than the first) receives light from a reflected beam coming from the previous optical filter. *See* Exhibit 25 at Figure 1.15; Exhibit 20 at Figure 3.3; Exhibit 11 at 3; Exhibit 19.

31. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a plurality of detectors, with one detector being associated with a dichroic mirror, to receive light from the detector leg thereof. For example, as illustrated above in Paragraph 29, the WDM module includes a plurality of fiber array photo detectors (FAPDs), each of which is associated with an optical filter and receives the transmitted beam corresponding to that filter. *See* Exhibit 25 at Figure 1.15; Exhibit 20 at Figure 3.3; Exhibit 11 at 3; Exhibit 19.

32. In addition to directly infringing the '314 patent, Beckman has infringed and continues to infringe the '314 patent indirectly by actively inducing others to directly infringe the '314 patent in violation of 35 U.S.C. § 271(b).

33. Beckman has had knowledge of the '314 patent since at least as early as September 8, 2010, when Beckman identified the related '505 patent on an Information Disclosure Statement filed with the USPTO in U.S. Patent Application No. 12/713,881. The '505 patent is a continuation of the '314 patent, and identifies the '314 patent on its face. The '314 patent was also identified on a Beckman Information Disclosure Statement filed with the USPTO on June 5, 2015 in U.S. Patent Application No. 14/555,102. U.S. Patent Application No. 14/555,102 was granted as U.S. Patent No. 9,746,412, which Beckman identifies as covering its Accused Analyzer Products for purposes of patent marking. For

example, Exhibit 26 is a true and correct copy of Beckman's patent marking website, available at <https://www.beckman.com/about-us/patents>.

34. Despite Beckman's knowledge of the '314 patent, Beckman has actively induced and continues to actively induce others to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services in a manner that infringes one or more claims of the '314 patent. For example, on information and belief, Beckman's customers directly infringe one or more claims of the '314 patent when they use the Accused Analyzer Products or Accused Cell Sorter Products in the United States according to instructions and product literature provided by Beckman.

35. On information and belief, Beckman has knowingly induced such infringement of the '314 patent and has done so with specific intent to induce such infringement, including through activities relating to instructions for use, marketing, advertising, promotion, support, and distribution of the Accused Analyzer Products and Accused Cell Sorter Products. On information and belief, Beckman provides materials that instruct its customers on how to use the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services. Beckman actively publicizes such promotional and instructional materials for the Accused Analyzer Products, Accused Cell Sorter

Products, Associated Products, and Associated Services through numerous means, including through its websites for the CytoFLEX, CytoFLEX S, CytoFLEX LX, and CytoFLEX SRT product lines. *See, e.g.*, Exhibits 5-8.

36. Beckman also indirectly infringes the '314 patent in violation of 35 U.S.C. § 271(c) because the Accused Analyzer Products and Accused Cell Sorter Products have no other substantial non-infringing use; (2) Beckman's marketing, selling, and importing of the Accused Analyzer Products and Accused Cell Sorter Products contribute to the direct infringement of the asserted claims by Beckman's customers; (3) Beckman knows that the Accused Analyzer Products and Accused Cell Sorter Products are especially made or especially adapted for an infringing use by its customers; and (4) the Accused Analyzer Products and Accused Cell Sorter Products are not a stable item or commodity of commerce suitable for substantial non-infringing use.

37. As detailed above, Beckman knowingly contributed to the infringement of the '314 patent under 35 U.S.C. § 271(c) because it had knowledge of the '314 patent since at least as early as September 8, 2010 and knew or was willfully blind to the fact that the only substantial use of the Accused Cell Sorter Products infringes the claims of the '314 patent.

38. Beckman's infringement of the '314 patent by its Accused Analyzer Products and Accused Cell Sorter Products also results in sales of Beckman's

conveyed Associated Products and Associated Services. BD is entitled to lost profit damages of these conveyed sales.

39. Beckman's infringement of the '314 patent has been and continues to be willful and deliberate. On information and belief, Beckman has known of the '314 patent since September 8, 2010, and at least by June 5, 2015, and knew or should have known that its Accused Analyzer Products and Accused Cell Sorter Products infringed one or more claims of the '314 patent, but acted despite the objectively high likelihood that its acts would infringe the '314 patent. Despite Defendant's knowledge of the '314 patent, and Defendant's knowledge of its infringement thereof, Defendant has continued making, using, selling, and offering for sale in the United States and/or importing into the United States the Accused Analyzer Products and Accused Cell Sorter Products that are covered by one or more claims of the '314 patent. Beckman's willful and deliberate infringement entitles BD to enhanced damages under 35 U.S.C. § 284.

40. Unless and until enjoined by this Court, Defendant will continue to willfully and deliberately infringe the '314 patent, both directly and indirectly. As the direct and proximate result of Beckman's conduct, BD has suffered, and if Beckman's conduct is not enjoined, will continue to suffer, severe competitive harm, irreparable injury, and significant damages, in an amount to be proven at

trial. Because BD's remedy at law is inadequate, BD is entitled to a permanent injunction against further infringement under 35 U.S.C. § 283.

41. BD marks its own products in compliance with 35 U.S.C. § 287, including with respect to the '314 patent. For example, pursuant to 35 U.S.C. § 287, BD's FACSLyric™, FACSVerse™, FACSCelesta™, LSRFortessa™, FACSLyric™ Clinical, FACSCalibur™, and FACSCanto™ analyzers and BD's FACSMelody™, FACS Aria™ III, and FACS Aria™ Fusion cell sorters are each marked with the number of the '314 patent.

SECOND CAUSE OF ACTION
(INFRINGEMENT OF THE '505 PATENT)

42. BD realleges and incorporates paragraphs 1–41 as though fully set forth herein.

43. Beckman directly or through the actions of its employees, agents, distributors, divisions, and/or subsidiaries, has infringed and continues to infringe, one or more of the claims of the '505 patent, including at least claim 1, directly and indirectly, literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale within the United States, and/or importing into the United States, the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services that practice one or more claims of the '505 patent.

44. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a detector apparatus for analyzing light emitted from a fluorescent material. On information and belief, the optical configuration of the Accused Cell Sorter Products is the same as the optical configuration of the Accused Analyzer Products, specifically the CytoFLEX S Violet-Blue-Yellow Green-Red Series Accused Analyzer Products. *See* Exhibit 21 at 2 (“This extension of the CytoFLEX platform is built on the same optical features as the flow cytometer.”); Exhibit 23. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include an optical analyzer, *i.e.*, a detector apparatus, that analyzes light emitted from a fluorescent material. *See* Exhibit 11 at 3; *See also* Exhibit 25 at 1-1 (“The CytoFLEX SRT Sorter examines individual particles that are propelled in saline sheath through a flow cell (1), then through one to four spatially laser beams (2) of differing wavelengths. If the properties of the particle, or fluorescent dye added to the particle, are excited by the wavelength of laser light, the particle emits broadband fluorescence and scattered light. The emitted light is collected, focused, reflected, and filtered, so that discrete wavelengths of light are detectable by the fiber array photo detectors (FAPD).”); Exhibit 20 at 3-4 (“As cells in the sample stream go through the sensing area of the flow cell, the elliptical beam illuminates them. The cells scatter the laser light and emit fluorescent light from autofluorescence and the

fluorescent dyes attached to them.”); *id.* at 3-5 (“Each WDM contains optical filters and detectors for detecting channel fluorescence or scatter from a particular laser.”).

45. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a light collector that collects light emitted from a fluorescent material and forms an output beam for analysis. For example, the Accused Analyzer Products and Accused Cell Sorter Products include a fiber ferule that collects fluorescent light emitted from the flow cell and forms an output beam for analysis. *See* Exhibit 11 at 3; *see also* Exhibit 20 at 3-5; *id.* at Figure 3.3; Exhibit 25 at 1-1 (“The emitted light is collected, focused, reflected, and filtered, so that discrete wavelengths of light are detectable by the fiber array photo detectors (FAPD).”); *id.* at 1-18.

46. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a means for collimating the output beam with a projected optical axis. For example, the WDM module of the Accused Analyzer Products and Accused Cell Sorter Products receives the collected light via a fiber optic cable and collimates the output beam for analysis. *See* Exhibit 21 at 3 (“All instruments use the same WDM design meaning that filters are interchangeable across the platform.”); Exhibit 20 at 3-5; Exhibit 25 at 1-18; Exhibit 11 at 3; Exhibit 19.

47. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a plurality of dichroic mirrors disposed along the projected optical axis and each dichroic mirror separates light into a reflected beam and a transmitted beam. For example, as illustrated above in Paragraph 29, optical filters in the WDM module operate as dichroic mirrors to separate light into a reflected beam and a transmitted beam. *See* Exhibit 25 at 1-18 and Figure 1.15; Exhibit 11 at 3 (“The WDM relies on fiber optics and band pass filters to separate the light wavelengths.”); Exhibit 19 (same); Exhibit 20 at 3-5.

48. On information and belief, at each dichroic mirror of the Accused Analyzer Products and Accused Cell Sorter Products, one of the reflected and transmitted beams is a transfer leg carrying the beam further to the next dichroic mirror and the other is a leg carrying light to a detector. For example, as illustrated above in Paragraph 29, in the WDM module, each optical filter splits the beam into a reflected leg, which is carried to the next optical filter, and a transmitted leg, which is carried to an avalanche photodiode detector. *See* Exhibit 20 at 3-5 and Figure 3.3; Exhibit 25 at 1-18 and Figure 1.15; Exhibit 11 at 3; Exhibit 19; *see also* Exhibit 21 at 3.

49. On information and belief, a majority of the dichroic mirrors of each of the Accused Analyzer Products and Accused Cell Sorter Products receives light from a reflected beam coming from another dichroic mirror. For example, as

illustrated above in Paragraph 29, each optical filter (other than the first) in the WDM module receives light from a reflected beam coming from the previous optical filter. *See* Exhibit 20 at 3-5 and Figure 3.3; Exhibit 25 at 1-18 and Figure 1.15; Exhibit 11 at 3; Exhibit 19.

50. In addition to directly infringing the '505 patent, Beckman has infringed and continues to infringe the '505 patent indirectly by actively inducing others to directly infringe the '505 patent in violation of 35 U.S.C. § 271(b).

51. Beckman has had knowledge of the '505 patent since at least as early as September 8, 2010, when Beckman identified the '505 patent on an Information Disclosure Statement filed with the USPTO in U.S. Patent Application No. 12/713,881.

52. Despite Beckman's knowledge of the '505 patent, Beckman has actively induced and continues to actively induce others to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services in a manner that infringes one or more claims of the '505 patent. For example, on information and belief, Beckman's customers directly infringe one or more claims of the '505 patent when they use the Accused Analyzer Products or Accused Cell Sorter Products in the United States according to instructions and product literature provided by Beckman.

53. On information and belief, Beckman has knowingly induced such infringement of the '505 patent and has done so with specific intent to induce such infringement, including through activities relating to instructions for use, marketing, advertising, promotion, support, and distribution of the Accused Analyzer Products and Accused Cell Sorter Products. On information and belief, Beckman provides materials that instruct its customers on how to use the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services. Beckman actively publicizes such promotional and instructional materials for the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services through numerous means, including through its websites for the CytoFLEX, CytoFLEX S, CytoFLEX LX, and CytoFLEXSRT product lines. *See, e.g.*, Exhibits 5-8.

54. Beckman's infringement of the '505 patent by its Accused Analyzer Products and Accused Cell Sorter Products also results in sales of Beckman's conveyed Associated Products and Associated Services. BD is entitled to lost profit damages of these conveyed sales.

55. Beckman's infringement of the '505 patent has been and continues to be willful and deliberate. On information and belief, Beckman has known of the '505 patent since at least September 8, 2010 and knew or should have known that its Accused Analyzer Products and Accused Cell Sorter Products infringed one or

more claims of the '505 patent prior to their commercial launch, but acted despite the objectively high likelihood that its acts would infringe the '505 patent. Despite Defendant's knowledge of the '505 patent, and Defendant's knowledge of its infringement thereof, Defendant has continued making, using, selling, and offering for sale in the United States and/or importing into the United States the Accused Analyzer Products and Accused Cell Sorter Products that are covered by one or more claims of the '505 patent. Beckman's willful and deliberate infringement entitles BD to enhanced damages under 35 U.S.C. § 284.

56. Unless and until enjoined by this Court, Defendant will continue to willfully and deliberately infringe the '505 patent, both directly and indirectly. As the direct and proximate result of Beckman's conduct, BD has suffered, and if Beckman's conduct is not enjoined, will continue to suffer, severe competitive harm, irreparable injury, and significant damages, in an amount to be proven at trial. Because BD's remedy at law is inadequate, BD is entitled to a permanent injunction against further infringement under 35 U.S.C. § 283.

57. BD marks its own products in compliance with 35 U.S.C. § 287, including with respect to the '505 patent. For example, pursuant to 35 U.S.C. § 287, BD's FACSLytic™, FACSVerse™, FACSCelesta™, LSRFortessa™, FACSLytic™ Clinical, FACSCalibur™, and FACSCanto™ analyzers and BD's

FACSMelody™, FACS Aria™ III, and FACS Aria™ Fusion cell sorters are each marked with the number of the '505 patent.

THIRD CAUSE OF ACTION
(INFRINGEMENT OF THE '875 PATENT)

58. BD realleges and incorporates paragraphs 1–57 as though fully set forth herein.

59. Beckman directly or through the actions of its employees, agents, distributors, divisions, and/or subsidiaries, has infringed and continues to infringe, one or more of the claims of the '875 patent, including at least claim 1, directly and indirectly, literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale within the United States, and/or importing into the United States, the Accused Cell Sorter Products, Associated Products, and Associated Services that practice one or more claims of the '875 patent.

60. On information and belief, the Accused Cell Sorter Products include a flow cell for use with a flow cytometer. *See* Exhibit 25 at 1-1 (“The CytoFLEX SRT Sorter examines individual particles that are propelled in saline sheath through a flow cell (1)”); *see also id.* at 1-3, 1-21, 1-23; Exhibit 22 at 1.

61. On information and belief, the Accused Cell Sorter Products include a flow cell comprising a flow cell body. For example, the flow cell of the Accused Cell Sorter Products includes a flow cell body that receives a stream with sample particles and saline sheath fluid. *See* Exhibit 25 at 1-5 (“The fluidics system helps

to transmit the sheath fluid at a stable rate into the flow cell, forming a laminar flow to ensure that the tested particles go through the detection area sequentially.”); *id.* at 1-1 (“The CytoFLEX SRT Sorter examines individual particles that are propelled in saline sheath through a flow cell (1)”); *see also* Exhibit 22 at 1.

62. On information and belief, the Accused Cell Sorter Products include a sample delivery tube that extends into the flow cell body. For example, in the fluidics system of the Accused Cell Sorter Products, a sample delivery tube extends into the flow cell body to transmit a stream with sample particles from a sample chamber to the flow cell. *See* Exhibit 25 at 1-5 (“The fluidics system helps to transmit the sheath fluid at a stable rate into the flow cell, forming a laminar flow to ensure that the tested particles go through the detection area sequentially.”); *id.* at 1-1 (“The CytoFLEX SRT Sorter examines individual particles that are propelled in saline sheath through a flow cell (1)”). For further example, Beckman provides the following illustration of the fluidics system of the Accused Cell Sorter Products, which shows a delivery tube between the Sample Chamber (1) and Flow Cell (2):

clear sheath tubing. Sheath flow is controlled through the sheath pressure.”); *id.* at Fig. 1.11. For further example, as illustrated above in Paragraph 62, sheath fluid is transmitted from a Sheath Tank (10) to the Flow Cell (2) through two sheath flow ports in the flow cell body. Exhibit 25 at 1-5 and Figure 1.3.

64. On information and belief, the flow cell of the Accused Cell Sorter Products includes a cuvette having flat sides and a rectangular cross-section that is joined to the flow cell body. For example, the Accused Cell Sorter products include cuvette that receives the laser beam light sources. *See* Exhibit 25 at 1-17 and Figure 1.14. For further example, as illustrated by Beckman below, this portion of the Accused Cell Sorter Products is positioned just downstream from the flow cell (1):

Figure 1.1 Sort Overview Diagram

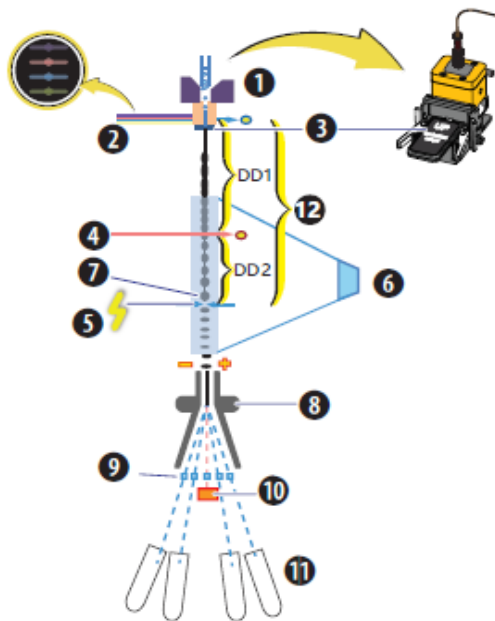


Exhibit 25 at 1-3.

65. On information and belief, the cuvette of the Accused Cell Sorter Products includes a channel having an initial end and a terminal end, wherein liquid from the sample delivery tube and the sheath flow port flow into the initial end of the channel. For example, as illustrated above in Paragraph 62, a stream of liquid is transported from the flow cell (1) and through the light source (2), including the cuvette, and then to a nozzle (3). Exhibit 25 at 1-1 to 1-3 and Figure 1.1. As explained above (*see* Paragraphs 62-63), the liquid stream in the flow cell includes liquid from the sample delivery tube and liquid from the sheath flow ports. *See also* Exhibit 25 at 1-5 and Figure 1.3. On information and belief, this liquid stream travels through a channel in the cuvette.

66. On information and belief, the flow cell of the Accused Cell Sorter Products include a removable nozzle at the terminal end of the cuvette channel and liquid from the sample delivery tube and sheath flow ports flows out of the channel and through this removable nozzle. *See* Exhibit 25 at 1-1 to 1-2 (“The CytoFLEX SRT Sorter examines individual particles that are propelled in saline sheath through a flow cell (1) Droplets detach from the stream a few millimeters downstream from the nozzle (3).”); *see also id.* at Figure 1.1. For example, the nozzle is removable and receives the liquid stream from the flow cell that includes liquid from the sample delivery tube and sheath flow ports. *See* Exhibit 25 at 1-27 (“The nozzle module (hereinafter referred to as Nozzle) contains a detachable 100-

µm nozzle (1), O-ring (2) and a nozzle holder (3). The stream of sheath and sample is pressurized to go through the nozzle.”). For further example, the nozzle receives the liquid stream from the cuvette, as illustrated above in Paragraph 64. Exhibit 25 at 1-1 to 1-3 and Figure 1.1; *see also id.* at 1-5 and Figure 1.3.

67. On information and belief, the removable nozzle of the Accused Cell Sorter Products is positioned on a removable nozzle key having hard planar surfaces on a top and on at least two sides, and the nozzle is held in a registered position on the flow cell at a defined three-dimensional position and rotational orientation by contact between the hard planar surfaces of the nozzle key and the cuvette. For example, the removable nozzle of the Accused Cell Sorter Products is positioned on a nozzle holder having hard planar surfaces. *See* Exhibit 25 at 1-27 (“The nozzle module (hereinafter referred to as Nozzle) contains a detachable 100-µm nozzle (1), O-ring (2) and a nozzle holder (3).”); *see also id.* at Figure 1.25. For further example, as illustrated by Beckman below, the nozzle module, including the nozzle holder and nozzle, can be inserted at a particular position and orientation and interfaces with the Accused Cell Sorter Products to maintain that position and orientation:

- 5 Insert the nozzle module carefully into Sorter with the UP symbol facing up. The nozzle module is locked into its position when you hear a click.

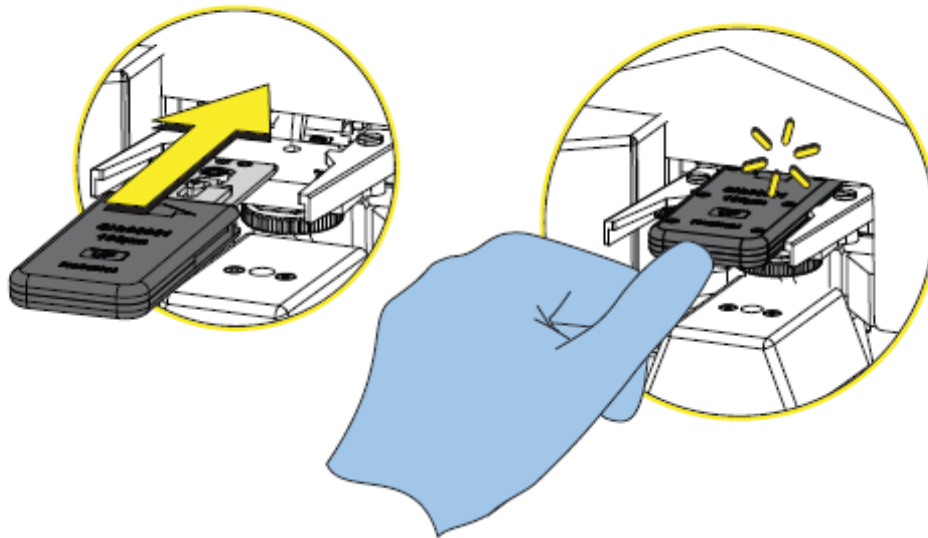


Exhibit 25 at 3-9; *see also id.* at 10-41. Furthermore, as explained above in Paragraphs 64-66, on information and belief, the nozzle of the Accused Cell Sorter Products is positioned directly downstream from the cuvette and interfaces with the cuvette.

68. In addition to directly infringing the '875 patent, Beckman has infringed and continues to infringe the '875 patent indirectly by actively inducing others to directly infringe the '875 patent in violation of 35 U.S.C. § 271(b).

69. Beckman has had knowledge of the '875 patent since at least as early as May 4, 2015, when the application that led to the '875 patent, U.S. Publication No. US2004/0062685, was cited by the USPTO Examiner during the prosecution of Beckman's U.S. Application No. 11/632,870.

70. Despite Beckman's knowledge of the '875 patent, Beckman has actively induced and continues to actively induce others to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, Accused Cell Sorter Products, Associated Products, and Associated Services in a manner that infringes one or more claims of the '875 patent. For example, on information and belief, Beckman's customers directly infringe one or more claims of the '875 patent when they use the Accused Cell Sorter Products in the United States according to instructions and product literature provided by Beckman.

71. On information and belief, Beckman has knowingly induced such infringement of the '875 patent and has done so with specific intent to induce such infringement, including through activities relating to instructions for use, marketing, advertising, promotion, support, and distribution of the Accused Cell Sorter Products. On information and belief, Beckman provides materials that instruct its customers on how to use the Accused Cell Sorter Products, Associated Products, and Associated Services. Beckman actively publicizes such promotional and instructional materials for the Accused Cell Sorter Products, Associated Products, and Associated Services through numerous means, including through its website for the CytoFLEX SRT product line, available at <https://www.beckman.com/flow-cytometry/instruments/cytoflex-srt>. See, e.g., Exhibits 8 and 21-22.

72. Beckman's infringement of the '875 patent by its Accused Cell Sorter Products also results in sales of Beckman's conveyed Associated Products and Associated Services. BD is entitled to lost profit damages of these conveyed sales.

73. Beckman's infringement of the '875 patent has been and continues to be willful and deliberate. On information and belief, Beckman has known of the '875 patent since at least May 4, 2015 and knew or should have known that its Accused Cell Sorter Products infringed one or more claims of the '875 patent prior to their commercial launch, but acted despite the objectively high likelihood that its acts would infringe the '875 patent. Despite Defendant's knowledge of the '875 patent, and Defendant's knowledge of its infringement thereof, Defendant has continued making, using, selling, and offering for sale in the United States and/or importing into the United States Accused Cell Sorter Products that are covered by one or more claims of the '875 patent. Beckman's willful and deliberate infringement entitles BD to enhanced damages under 35 U.S.C. § 284.

74. Unless and until enjoined by this Court, Defendant will continue to willfully and deliberately infringe the '875 patent, both directly and indirectly. As the direct and proximate result of Beckman's conduct, BD has suffered, and if Beckman's conduct is not enjoined, will continue to suffer, severe competitive harm, irreparable injury, and significant damages, in an amount to be proven at

trial. Because BD's remedy at law is inadequate, BD is entitled to a permanent injunction against further infringement under 35 U.S.C. § 283.

75. BD marks its own products in compliance with 35 U.S.C. § 287, including with respect to the '875 patent. For example, pursuant to 35 U.S.C. § 287, BD's FACSMelody™, FACSAria™ III, and FACSAria™ Fusion cell sorters are each marked with the number of the '875 patent.

FOURTH CAUSE OF ACTION
(INFRINGEMENT OF THE '197 PATENT)

76. BD realleges and incorporates paragraphs 1–75 as though fully set forth herein.

77. Beckman directly or through the actions of its employees, agents, distributors, divisions, and/or subsidiaries, has infringed and continues to infringe, one or more of the claims of the '197 patent, including at least claim 1, directly and indirectly, literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale within the United States, and/or importing into the United States, the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services that practice one or more claims of the '197 patent.

78. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include an optical analyzer. On information and belief, the optical configuration of the Accused Cell Sorter Products is the same as

the optical configuration of the Accused Analyzer Products, specifically the CytoFLEX S Violet-Blue-Yellow Green-Red Series Accused Analyzer Products. *See* Exhibit 21 at 2 (“This extension of the CytoFLEX platform is built on the same optical features as the flow cytometer.”); Exhibit 23. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include an optical analyzer that analyzes light emitted from a fluorescent material. *See* Exhibit 11 at 3; Exhibit 20 at 3-5 (“Each WDM contains optical filters and detectors for detecting channel fluorescence or scatter from a particular laser.”); Exhibit 25 at 1-1 (“The CytoFLEX SRT Sorter examines individual particles that are propelled in saline sheath through a flow cell (1), then through one to four spatially laser beams (2) of differing wavelengths. If the properties of the particle, or fluorescent dye added to the particle, are excited by the wavelength of laser light, the particle emits broadband fluorescence and scattered light. The emitted light is collected, focused, reflected, and filtered, so that discrete wavelengths of light are detectable by the fiber array photo detectors (FAPD).”).

79. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a light source adapted to emit an approximately collimated light beam along a light path. For example, the Accused Analyzer Products include from two to six lasers of different wavelengths, each of which emit a collimated light beam along a light path. *See* Exhibits 12-18; *see also*

Exhibit 20 at Tables 1.1 to 1.7; Exhibit 11 at 3. For further example, the Accused Cell Sorter Products include four lasers, each of which emit a collimated light beam along a light path. *See* Exhibit 22 at 1 (“The fully activated instrument includes five fluorescent channels from the 405 nm (Violet) laser, two from the 488 nm (Blue) laser, five from the 561 nm (Yellow) laser, and three from the 638 nm (Red) laser.”); *see also* Exhibit 21 at 3; Exhibit 25 at 1-1 and 1-17; Exhibit 11 at 3.

80. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include a focusing lens with a focal length f_1 positioned in the light path that focuses the light beam onto a focal spot within a sample analysis region. For example, as illustrated above in Paragraph 29, the WDM module includes a lens that intersects the light path. *See* Exhibit 20 at Figure 3.3; Exhibit 25 at Figure 1.15; *see also* Exhibit 11 at 3; Exhibit 19. Additionally, on information and belief, the Accused Analyzer Products, on which the Accused Cell Sorter Products are based and parameter matched, includes a focusing lens positioned in the light path with a focal length (f_1) of 20 mm.

81. On information and belief, the Accused Analyzer Products and Accused Cell Sorter Products include beam-adjusting optics positioned in the light path between the light source and the focusing lens. For example, the Accused Analyzer Products and Accused Cell Sorter Products include a lens to focus beams

from the lasers that is positioned between each laser and focusing lens. *See* Exhibit 20 at 3-3 (“Before the laser beam reaches the sample stream, lenses focus the beam Focusing keeps the beam perpendicular to the sample stream flow while making the beam small enough to illuminate only one cell at a time.”); Exhibit 25 at 1-17 (same).

82. On information and belief, the beam-adjusting optics of the Accused Analyzer Products and Accused Cell Sorter Products include at least one beam-adjusting lens with a focal length f_2 that is mounted in a positioning device that allows movement of the beam-adjusting lens in a plane perpendicular to the light path. *See* Exhibit 20 at 3-4; Exhibit 25 at 1-17. For example, on information and belief, the Accused Analyzer Products, on which the Accused Cell Sorter Products are based and parameter matched, includes beam adjusting lenses having at least one adjustable lens for each laser. On information and belief, the focal length of the adjustable lenses is approximately 1000 mm.

83. On information and belief, the beam-adjusting lens and the focusing lens of the Accused Analyzer Products and Accused Cell Sorter Products are separated by a distance z along the light path. For example, on information and belief, in the Accused Analyzer Products, on which the Accused Cell Sorter Products are based and parameter matched, the beam adjusting lenses and the focusing lens are separated by a distance of up to 180 mm.

84. On information and belief, with respect to the focal length f_1 , focal length f_2 , and distance z in the Accused Analyzer Products and Accused Cell Sorter Products, $|f_2 - z| \geq 4 \cdot f_1$. For example, in the Accused Analyzer Products, on which the CytoFLEX SRT is based and parameter matched, f_1 is 20 mm, f_2 is 1000 mm, and z is 180 mm, which satisfies $|f_2 - z| \geq 4 \cdot f_1$.

85. In addition to directly infringing the '197 patent, Beckman has infringed and continues to infringe the '197 patent indirectly by actively inducing others to directly infringe the '197 patent in violation of 35 U.S.C. § 271(b).

86. On information and belief, Beckman has had knowledge of the '197 patent since at least as early as 2014. On information and belief, Yong Qin Chen, the sole inventor of the '197 patent, founded Xitogen Technologies Inc., which was acquired by Beckman Coulter Life Sciences in 2014. For example, Exhibit 27 is a true and correct copy of a press release entitled "Beckman Coulter Life Sciences To Acquire Cytometer Maker Xitogen," available at <https://www.beckman.com/news/beckman-coulter-life-sciences-to-acquire-cytometer-maker-xitogen>. On information and belief, Dr. Chen was employed by Beckman Coulter Life Sciences as its Chief Technical Officer from 2014 through 2019 and was involved in the design and development of flow cytometry products for Beckman. For another example, Example 28 is a true and correct copy of a press release entitled "Inventor of Beckman Coulter Life Sciences' CytoFLEX

Flow Cytometer Honored,” available at <https://www.beckman.com/news/inventor-of-beckman-coulter-life-sciences-cytoflex-flow-cytometer-honored>. For further example, Exhibit 29 is a true and correct copy of Dr. Chen’s LinkedIn page, available at <https://www.linkedin.com/in/yong-chen-0b992312>. The ’197 patent was also identified on an Information Disclosure Statement filed with the USPTO on June 5, 2015 in U.S. Patent Application No. 14/555,102. U.S. Patent Application No. 14/555,102 was granted as U.S. Patent No. 9,746,412, which Beckman identifies as covering its Accused Analyzer Products for purposes of patent marking. *See* Exhibit 26.

87. Despite Beckman’s knowledge of the ’197 patent, Beckman has actively induced and continues to actively induce others to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services in a manner that infringes one or more claims of the ’197 patent. For example, on information and belief, Beckman’s customers directly infringe one or more claims of the ’197 patent when they use the Accused Analyzer Products or Accused Cell Sorter Products in the United States according to instructions and product literature provided by Beckman.

88. On information and belief, Beckman has knowingly induced such infringement of the ’197 patent and has done so with specific intent to induce such

infringement, including through activities relating to instructions for use, marketing, advertising, promotion, support, and distribution of the Accused Analyzer Products and Accused Cell Sorter Products. On information and belief, Beckman provides materials that instruct its customers on how to use the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services. Beckman actively publicizes such promotional and instructional materials for the Accused Analyzer Products, Accused Cell Sorter Products, Associated Products, and Associated Services through numerous means, including through its websites for the CytoFLEX, CytoFLEX S, CytoFLEX LX, and CytoFLEXSRT product lines. *See, e.g.*, Exhibits 5-8.

89. Beckman's infringement of the '197 patent by its Accused Analyzer Products and Accused Cell Sorter Products also results in sales of Beckman's conveyed Associated Products and Associated Services. BD is entitled to lost profit damages of these conveyed sales.

90. Beckman's infringement of the '197 patent has been and continues to be willful and deliberate. On information and belief, Beckman has known of the '197 patent since 2014, and at least by June 5, 2015, and knew or should have known that its Accused Analyzer Products and Accused Cell Sorter Products infringed one or more claims of the '197 patent prior to their commercial launch, but acted despite the objectively high likelihood that its acts would infringe the

'197 patent. Despite Defendant's knowledge of the '197 patent, and Defendant's knowledge of its infringement thereof, Defendant has continued making, using, selling, and offering for sale in the United States and/or importing into the United States the Accused Analyzer Products and Accused Cell Sorter Products that are covered by one or more claims of the '197 patent. Beckman's willful and deliberate infringement entitles BD to enhanced damages under 35 U.S.C. § 284.

91. Unless and until enjoined by this Court, Defendant will continue to willfully and deliberately infringe the '197 patent, both directly and indirectly. As the direct and proximate result of Beckman's conduct, BD has suffered, and if Beckman's conduct is not enjoined, will continue to suffer, severe competitive harm, irreparable injury, and significant damages, in an amount to be proven at trial. Because BD's remedy at law is inadequate, BD is entitled to a permanent injunction against further infringement under 35 U.S.C. § 283.

92. BD marks its own products in compliance with 35 U.S.C. § 287, including with respect to the '197 patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that the Court enter judgment in its favor and prays that the Court grant it following relief:

A. Ruling that Defendant has directly and indirectly infringed the patents-in-suit;

B. Preliminarily and permanently enjoining Defendant, its affiliates and subsidiaries, and each of its officers, agents, servants and employees and those acting in privity or concert with it, from directly or indirectly infringing any of the claims of the patents-in-suit, and from causing or encouraging others to directly infringe the patents-in-suit until after the expiration date of the patents-in-suit, including any extensions and/or additional periods of exclusivity to which Plaintiff is or becomes entitled;

C. Awarding damages under 35 U.S.C. § 284 in an amount sufficient to compensate Plaintiff for its damages arising from Defendant's direct and indirect infringement of the patents-in-suit, including, but not limited to, lost profits and/or a reasonable royalty, together with prejudgment and post-judgment interest, and costs;

D. Awarding an accounting and/or supplemental damages for all damages occurring after any discovery cutoff and through the Court's decision regarding the imposition of a permanent injunction;

E. Declaring this case to be exceptional within the meaning of 35 U.S.C. § 285 and awarding Plaintiff the attorney fees, costs, and expenses it incurs in this action;

F. An order awarding treble damages for willful infringement by Defendant, pursuant to 35 U.S.C. § 284; and

G. Awarding Plaintiff such other and further relief as the Court deems just and proper.

JURY DEMAND

In accordance with Rule 38 of the Federal Rules of Civil Procedure, Plaintiff hereby demands a trial by jury for all issues so triable.

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October 7, 2022